

CLAIMS

What is claimed is:

1. A fuel dispensing system comprising:

5 a fuel dispenser for dispensing fuel to a customer in response to an
authorization signal;

 a control system for securing said authorization signal from an
authorization network and for providing said authorization signal to said fuel
dispenser based on determined authorization information from the authorization
10 network, said control system comprising a security module; and

 a card reader adapted to encrypt account information received from a
customer's card and send the encrypted account information to the control
system, said security module decrypting the account information received from
the card reader.

15

2. The fuel dispensing system of claim 1 wherein said card reader is a smart
card reader.

3. The fuel dispensing system of claim 1 wherein said card reader is a magnetic
20 card reader.

4. The fuel dispensing system of claim 1 further comprising a keypad module.

5. The fuel dispensing system of claim 4 wherein said keypad module is an encrypting keypad module.

6. The fuel dispensing system of claim 5 wherein said encrypting keypad module
5 sends PIN information to said security module in an encrypted format.

7. The fuel dispensing system of claim 1 wherein said security module re-encrypts the account information prior to sending the account information to the authorization network.

10

8. The fuel dispensing system of claim 1 wherein the card reader is housed within a tamper-resistant enclosure.

15

9. The fuel dispensing system of claim 1 wherein the card reader is integrated into said fuel dispenser.

10. The fuel dispensing system of claim 1 wherein said control system is a site controller operatively associated with a plurality of like said fuel dispensers and adapted to enable respective ones of said fuel dispensers.

20

11. The fuel dispensing system of claim 1 wherein said security module provides encryption key information to said card reader.

12. The fuel dispensing system of claim 11 wherein said encryption key information is used by the card reader to encrypt said account information and by the security module to decrypt said encrypted account information.

5 13. The fuel dispensing system of claim 11 wherein said security module provides said encryption key information to said card reader using an encryption key exchange (EKE) algorithm.

14. A card reader module for authorizing a transaction comprising:

10 a card interface adapted to read account information from a payment card;
an encryption module adapted to encrypt the account information; and
a communications module adapted to communicate with a site controller and pass the encrypted account information thereto such that a security module associated with the site controller decrypts the encrypted account information.

15

15. The card reader module of claim 14 wherein said card reader module is a smart card reader adapted to interface with a smart card.

16. The card reader module of claim 14 wherein said card reader module is a

20 magnetic card reader adapted to interface with a magnetic card.

17. The card reader module of claim 14 wherein said card reader module is adapted to be integrated into a fuel dispenser thereby allowing a control system

associated with the fuel dispenser to obtain authorization for a fueling transaction.

18. The card reader module of claim 14 wherein said card reader module is
5 enclosed by a tamper-resistant housing.

19. A method of securely collecting account information from a customer's payment card, comprising:

interfacing with a customer payment card using a card reader to collect
10 account information therefrom;
encrypting the account information;
sending the encrypted account information from the card reader to a site controller; and
decrypting the encrypted account information with a security module
15 associated with the site controller.

20. The method of claim 19 wherein interfacing with a customer payment card comprises interfacing with a magnetic customer payment card.

20 21. The method of claim 19 wherein interfacing with a customer payment card comprises interfacing with a smart card customer payment card.

22. The method of claim 19 further comprising sending encrypted PIN information from an encrypting keypad to the site controller.

23. The method of claim 19 wherein the security module re-encrypts the account information prior to sending it to an authorization network.

24. The method of claim 23 wherein the security module encrypts a PIN with the account information.

25. A method for providing secure account information transmission comprising:
providing a tamper-resistant housing for a card reader;
encrypting account information sent from the card reader; and
decrypting the account information with a security module at a site controller.

15

26. The method of claim 25 further comprising providing an encryption key to the card reader.

27. The method of claim 26 wherein providing an encryption key comprises providing an encryption key using an encryption key exchange (EKE) algorithm.

20

28. The method of claim 25 further comprising integrating the card reader into a fuel dispenser.

29. The method of claim 28 further comprising sending encrypted PIN information from the fuel dispenser to a site controller.